

10/574045

SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> PROTEIN EXPRESSED IN NK CELL

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<150> JP 2003-338331

<151> 2003-09-29

<160> 53

<170> PatentIn version 3.1

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<223>

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Gly Lys Thr Val Trp Leu Tyr Leu Gln Ala Trp Pro Asn Pro Val Phe

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Leu Ser Gin Val Lys Phe Tyr Arg Asp Gly Lys Phe Leu His Phe Ser			
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Lys Glu Asn Gin Thr Leu Ser Met Gly Ala Ala Thr Val Gin Ser Arg			
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ggc cag tac agc tgc tct ggg cag gtg atg tat att cca cag aca ttc			353
Gly Gin Tyr Ser Cys Ser Gly Gin Val Met Tyr Ile Pro Gin Thr Phe			
75	80	85	
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Thr Gin Thr Ser Glu Thr Ala Met Val Gin Val Gin Glu Leu Phe Pro			
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cct cct gtg ctg agt gcc atc ccc tct cct gag ccc cga gag ggt agc			449
Pro Pro Val Leu Ser Ala Ile Pro Ser Pro Glu Pro Arg Glu Gly Ser			
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Leu Val Thr Leu Arg Cys Gin Thr Lys Leu His Pro Leu Arg Ser Ala			
125	130	135	
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Leu Arg Leu Leu Phe Ser Phe His Lys Asp Gly His Thr Leu Gin Asp			
140	145	150	
agg ggc cct cac cca gaa ctc tgc atc ccg gga gcc aag gag gga gac			593
Arg Gly Pro His Pro Glu Leu Cys Ile Pro Gly Ala Lys Glu Gly Asp			
155	160	165	

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Ser	Gly	Leu	Tyr	Trp	Cys	Glu	Val	Ala	Pro	Glu	Gly	Gly	Gln	Val	Gln		
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aag	cag	agc	ccc	cag	ctg	gag	gtc	aga	gtg	cag	gct	cct	gta	tcc	cgt		689
Lys	Gln	Ser	Pro	Gln	Leu	Glu	Val	Arg	Val	Gln	Ala	Pro	Val	Ser	Arg		
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cct	gtg	ctc	act	ctg	cac	cac	ggg	cct	gct	gac	cct	gct	gtg	ggg	gac		737
Pro	Val	Leu	Thr	Leu	His	His	Gly	Pro	Ala	Asp	Pro	Ala	Val	Gly	Asp		
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atg	gtg	cag	ctc	ctc	tgt	gag	gca	cag	agg	ggc	tcc	cct	ccg	atc	ctg		785
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tat	tcc	ttc	tac	ctt	gat	gag	aag	att	gtg	ggg	aac	cac	tca	gct	ccc		833
Tyr	Ser	Phe	Tyr	Leu	Asp	Glu	Lys	Ile	Val	Gly	Asn	His	Ser	Ala	Pro		
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tgt	ggt	gga	acc	acc	tcc	ctc	ctc	ttc	cca	gtg	aag	tca	gaa	cag	gat		881
Cys	Gly	Gly	Thr	Thr	Ser	Leu	Leu	Phe	Pro	Val	Lys	Ser	Glu	Gln	Asp		
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Ala	Gly	Asn	Tyr	Ser	Cys	Glu	Ala	Glu	Asn	Ser	Val	Ser	Arg	Glu	Arg		
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Ser	Glu	Pro	Lys	Lys	Leu	Ser	Leu	Lys	Gly	Ser	Gln	Val	Leu	Phe	Thr		
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ccc	gcc	agc	aac	tgg	ctg	gtt	cct	tgg	ctt	cct	gcg	agc	ctg	ctt	ggc		1025
Pro	Ala	Ser	Asn	Trp	Leu	Val	Pro	Trp	Leu	Pro	Ala	Ser	Leu	Leu	Gly		
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Lys Ala Gly Pro Leu Pro Ser Gln Ile Pro Pro Thr Ala Pro Gly Gly		
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Ala Arg Ser Ala Glu Phe Thr Val Gly Arg Lys Asp Ser Ser Ile Ile		
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Cys Ala Glu Val Arg Cys Leu Gln Pro Ser Glu Val Ser Ser Thr Glu		
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410	415	420
425		
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<213> Homo sapiens

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 35 40 45

Arg Asp Gly Lys Phe Leu His Phe Ser Lys Glu Asn Gln Thr Leu Ser
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Met Gly Ala Ala Thr Val Gln Ser Arg Gly Gln Tyr Ser Cys Ser Gly
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Gln Val Met Tyr Ile Pro Gln Thr Phe Thr Gln Thr Ser Glu Thr Ala
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Met Val Gln Val Gln Glu Leu Phe Pro Pro Pro Val Leu Ser Ala Ile
 100 105 110

Pro Ser Pro Glu Pro Arg Glu Gly Ser Leu Val Thr Leu Arg Cys Gln
 115 120 125

Thr Lys Leu His Pro Leu Arg Ser Ala Leu Arg Leu Leu Phe Ser Phe
 130 135 140

His Lys Asp Gly His Thr Leu Gln Asp Arg Gly Pro His Pro Glu Leu
 145 150 155 160

Cys Ile Pro Gly Ala Lys Glu Gly Asp Ser Gly Leu Tyr Trp Cys Glu
165 170 175

Val Ala Pro Glu Gly Gly Gln Val Gln Lys Gln Ser Pro Gln Leu Glu
180 185 190

Val Arg Val Gln Ala Pro Val Ser Arg Pro Val Leu Thr Leu His His
195 200 205

Gly Pro Ala Asp Pro Ala Val Gly Asp Met Val Gln Leu Leu Cys Glu
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Ala Gln Arg Gly Ser Pro Pro Ile Leu Tyr Ser Phe Tyr Leu Asp Glu
225 230 235 240

Lys Ile Val Gly Asn His Ser Ala Pro Cys Gly Gly Thr Thr Ser Leu
245 250 255

Leu Phe Pro Val Lys Ser Glu Gln Asp Ala Gly Asn Tyr Ser Cys Glu
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290 295 300

Pro Trp Leu Pro Ala Ser Leu Leu Gly Leu Met Val Ile Ala Ala Ala
305 310 315 320

Leu Leu Val Tyr Val Arg Ser Trp Arg Lys Ala Gly Pro Leu Pro Ser
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Gln Ile Pro Pro Thr Ala Pro Gly Gly Glu Gln Cys Pro Leu Tyr Ala
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Val His Arg Thr Ser Lys Arg Ser Glu Ala Arg Ser Ala Glu Phe Thr
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Val Gly Arg Lys Asp Ser Ser Ile Ile Cys Ala Glu Val Arg Cys Leu
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Met Leu Pro Ser Leu Gly Pro Met Leu
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45	50	55	
aag ttc tac aga gat gga aaa ttc ctt cat ttc tct aag gaa aac cag			306
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60	65	70	
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75	80	85	
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Cys Ser Gly Gln Val Met Tyr Ile Pro Gln Thr Phe Thr Gln Thr Ser			
90	95	100	105
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Glu Thr Ala Met Val Gln Val Gln Glu Leu Phe Pro Pro Pro Val Leu			
110	115	120	
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Ser Ala Ile Pro Ser Pro Glu Pro Arg Glu Gly Ser Leu Val Thr Leu			
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Arg Cys Gln Thr Lys Leu His Pro Leu Arg Ser Ala Leu Arg Leu Leu			
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Phe Ser Phe His Lys Asp Gly His Thr Leu Gln Asp Arg Gly Pro His			
155	160	165	

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Pro Glu Leu Cys Ile Pro Gly Ala Lys Glu Gly Asp Ser Gly Leu Tyr			
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cag ctg gag gtc aga gtg cag gct cct gta tcc cgt cct gtg ctc act			738
Gln Leu Glu Val Arg Val Gln Ala Pro Val Ser Arg Pro Val Leu Thr			
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Leu His His Gly Pro Ala Asp Pro Ala Val Gly Asp Met Val Gln Leu			
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ctc tgt gag gca cag agg ggc tcc cct ccg atc ctg tat tcc ttc tac			834
Leu Cys Glu Ala Gln Arg Gly Ser Pro Pro Ile Leu Tyr Ser Phe Tyr			
235	240	245	
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250	255	260	265
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Thr Ser Leu Leu Phe Pro Val Lys Ser Glu Gln Asp Ala Gly Asn Tyr			
270	275	280	
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Ser Cys Glu Ala Glu Asn Ser Val Ser Arg Glu Arg Ser Glu Pro Lys			
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315	320	325
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Tyr Ser Val Val His Arg Thr Ser Lys Arg Ser Glu Ala Arg Ser Ala		
380	385	390
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Glu Phe Thr Val Gly Arg Lys Asp Ser Ser Ile Ile Cys Ala Glu Val		
395	400	405
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Arg Cys Leu Gln Pro Ser Glu Val Ser Ser Thr Glu Val Asn Met Arg		
410	415	420
425		
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Ser Arg Thr Leu Gln Glu Pro Leu Ser Asp Cys Glu Glu Val Leu Cys		
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Pro Asn Pro Val Phe Glu Gly Asp Ala Leu Thr Leu Arg Cys Gln Gly
35 40 45

Trp Lys Asn Thr Pro Leu Ser Gln Val Lys Phe Tyr Arg Asp Gly Lys
50 55 60

Phe Leu His Phe Ser Lys Glu Asn Gln Thr Leu Ser Met Gly Ala Ala
 65 70 75 80

Thr Val Gln Ser Arg Gly Gln Tyr Ser Cys Ser Gly Gln Val Met Tyr
 85 90 95

Ile Pro Gln Thr Phe Thr Gln Thr Ser Glu Thr Ala Met Val Gln Val
 100 105 110

Gln Glu Leu Phe Pro Pro Pro Val Leu Ser Ala Ile Pro Ser Pro Glu
 115 120 125

Pro Arg Glu Gly Ser Leu Val Thr Leu Arg Cys Gln Thr Lys Leu His
 130 135 140

Pro Leu Arg Ser Ala Leu Arg Leu Leu Phe Ser Phe His Lys Asp Gly
 145 150 155 160

His Thr Leu Gln Asp Arg Gly Pro His Pro Glu Leu Cys Ile Pro Gly
 165 170 175

Ala Lys Glu Gly Asp Ser Gly Leu Tyr Trp Cys Glu Val Ala Pro Glu
 180 185 190

Gly Gly Gln Val Gln Lys Gln Ser Pro Gln Leu Glu Val Arg Val Gln
 195 200 205

Ala Pro Val Ser Arg Pro Val Leu Thr Leu His His Gly Pro Ala Asp
 210 215 220

Pro Ala Val Gly Asp Met Val Gln Leu Leu Cys Glu Ala Gln Arg Gly
 225 230 235 240

Ser Pro Pro Ile Leu Tyr Ser Phe Tyr Leu Asp Glu Lys Ile Val Gly
 245 250 255

Asn His Ser Ala Pro Cys Gly Gly Thr Thr Ser Leu Leu Phe Pro Val

260	265	270
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Lys Ser Glu Gin Asp Ala Gly Asn Tyr Ser Cys Glu Ala Glu Asn Ser

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Val Ser Arg Glu Arg Ser Glu Pro Lys Lys Leu Ser Leu Lys Gly Ser

290	295	300
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Gln Val Leu Phe Thr Pro Ala Ser Asn Trp Leu Val Pro Trp Leu Pro

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Ala Ser Leu Leu Gly Leu Met Val Ile Ala Ala Ala Leu Leu Val Tyr

325	330	335
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Val Arg Ser Trp Arg Lys Ala Gly Pro Leu Pro Ser Gln Ile Pro Pro

340	345	350
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Thr Ala Pro Gly Gly Glu Gln Cys Pro Leu Tyr Ala Asn Val His His

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Gln Lys Gly Lys Asp Glu Gly Val Val Tyr Ser Val Val His Arg Thr

370	375	380
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Ser Lys Arg Ser Glu Ala Arg Ser Ala Glu Phe Thr Val Gly Arg Lys

385	390	395	400
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Asp Ser Ser Ile Ile Cys Ala Glu Val Arg Cys Leu Gln Pro Ser Glu

405	410	415
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Met
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 Leu Leu Trp Met Val Leu Leu Leu Cys Asp Ser Met Val Glu Ala Gln
 5 10 15

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Glu Leu Phe Pro Asn Pro Glu Leu Thr Glu Phe Thr Asn Ser Glu Thr
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 Met Asp Val Ile Leu Lys Cys Thr Ile Lys Val Asp Pro Lys Asn Pro
 35 40 45

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Thr Leu Gln Leu Phe Tyr Thr Phe Tyr Lys Asp Asn His Val Ile Gln
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70	75	80	
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Ser Gly Leu Tyr Gln Cys Met Val Asp Thr Glu Asp Gly Leu Ile Gln			
85	90	95	
aaa aaa agt ggc tat ctg gat atc cag ttc tgg act cct gta tcc cat			453
Lys Lys Ser Gly Tyr Leu Asp Ile Gln Phe Trp Thr Pro Val Ser His			
100	105	110	
cct gtg ctc act ctg caa cat gaa gcc act aac ctt gct gta gga gac			501
Pro Val Leu Thr Leu Gln His Glu Ala Thr Asn Leu Ala Val Gly Asp			
115	120	125	
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Lys Val Glu Phe Leu Cys Glu Ala His Gln Gly Ser Leu Pro Ile Phe			
130	135	140	145
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Tyr Ser Phe Tyr Ile Asn Gly Glu Ile Leu Gly Lys Pro Leu Ala Pro			
150	155	160	
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Ser Gly Arg Ala Ala Ser Leu Leu Ala Ser Val Lys Ala Glu Trp Ser			
165	170	175	
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Thr Lys Asn Tyr Ser Cys Glu Ala Lys Asn Asn Ile Ser Arg Glu Ile			
180	185	190	
agt gag ctc aag aag ttc ccc ttg gtt gtc tca ggt act gcc tgg atc			741
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Met Val Ile Ala Ala Val Val Leu Met Tyr Phe Phe Lys Pro Cys Lys			
230	235	240	
aag cat gcc aga cct gag atg ccc acc cta aaa gag cca gac agt ttt	885		
Lys His Ala Arg Pro Glu Met Pro Thr Leu Lys Glu Pro Asp Ser Phe			
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Leu Tyr Val Ser Val Asp Asn Arg Arg Tyr Lys			
260	265		
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 35 40 45

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 50 55 60

Gln Asp Arg Ser Pro His Ser Val Phe Ser Ala Glu Ala Lys Glu Glu
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Asn Ser Gly Leu Tyr Gln Cys Met Val Asp Thr Glu Asp Gly Leu Ile
 85 90 95

Gln Lys Lys Ser Gly Tyr Leu Asp Ile Gln Phe Trp Thr Pro Val Ser
 100 105 110

His Pro Val Leu Thr Leu Gln His Glu Ala Thr Asn Leu Ala Val Gly
 115 120 125

Asp Lys Val Glu Phe Leu Cys Glu Ala His Gln Gly Ser Leu Pro Ile
 130 135 140

Phe Tyr Ser Phe Tyr Ile Asn Gly Glu Ile Leu Gly Lys Pro Leu Ala
 145 150 155 160

Pro Ser Gly Arg Ala Ala Ser Leu Leu Ala Ser Val Lys Ala Glu Trp
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Ser Thr Lys Asn Tyr Ser Cys Glu Ala Lys Asn Asn Ile Ser Arg Glu
 180 185 190

Ile Ser Glu Leu Lys Lys Phe Pro Leu Val Val Ser Gly Thr Ala Trp
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Ile Lys Ser Asn Met Leu Thr Ile Trp Leu Pro Ala Ser Leu Leu Gly
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Gly Met Val Ile Ala Ala Val Val Leu Met Tyr Phe Phe Lys Pro Cys
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10/574045

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<110> Matsushima, Kouji
 Hashimoto, Shinichi
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 Yoshida, Kenji
 Ojima, Kazuyuki

<120> PROTEIN EXPRESSED IN NK CELL

<130> 14875-157US1

<150> PCT/JP2004/14207

<151> 2004-09-29

<150> JP 2003-338331

<151> 2003-09-29

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 Glu Gly Asp Ala Leu Thr Leu Arg Cys Gln Gly Trp Lys Asn Thr Pro
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ctg tct cag gtg aag ttc tac aga gat gga aaa ttc ctt cat ttc tct 257
 Leu Ser Gln Val Lys Phe Tyr Arg Asp Gly Lys Phe Leu His Phe Ser
 45 50 55

aag gaa aac cag act ctg tcc atg gga gca gca aca gtg cag agc cgt 305
 Lys Glu Asn Gln Thr Leu Ser Met Gly Ala Ala Thr Val Gln Ser Arg
 60 65 70

ggc cag tac agc tgc tct ggg cag gtg atg tat att cca cag aca ttc 353
 Gly Gln Tyr Ser Cys Ser Gly Gln Val Met Tyr Ile Pro Gln Thr Phe

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110 115 120			
ctg gtg acc ctg aga tgt cag aca aag ctg cac ccc ctg agg tca gcc Leu Val Thr Leu Arg Cys Gln Thr Lys Leu His Pro Leu Arg Ser Ala			497
125 130 135			
ttg agg ctc ctt ttc tcc ttc cac aag gac ggc cac acc ttg cag gac Leu Arg Leu Leu Phe Ser Phe His Lys Asp Gly His Thr Leu Gln Asp			545
140 145 150			
agg ggc cct cac cca gaa ctc tgc atc ccg gga gcc aag gag gga gac Arg Gly Pro His Pro Glu Leu Cys Ile Pro Gly Ala Lys Glu Gly Asp			593
155 160 165			
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170 175 180 185			
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190 195 200			
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205 210 215			
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220 225 230			
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235 240 245			
tgt ggt gga acc acc tcc ctc ttc cca gtg aag tca gaa cag gat Cys Gly Gly Thr Thr Ser Leu Leu Phe Pro Val Lys Ser Glu Gln Asp			881
250 255 260 265			
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270 275 280			
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285 290 295			
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300 305 310			

ctg atg gtt att gct gct gca ctt ctg gtt tat gtg aga tcc tgg aga 1073
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 315 320 325

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 Lys Ala Gly Pro Leu Pro Ser Gln Ile Pro Pro Thr Ala Pro Gly Gly
 330 335 340 345

 gag cag tgc cca cta tat gcc aac gtg cat cac cag aaa ggg aaa gat 1169
 Glu Gln Cys Pro Leu Tyr Ala Asn Val His His Gln Lys Gly Lys Asp
 350 355 360

 gaa ggt gtt gtc tac tct gtg gtg cat aga acc tca aag agg agt gaa 1217
 Glu Gly Val Val Tyr Ser Val Val His Arg Thr Ser Lys Arg Ser Glu
 365 370 375

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 Ala Arg Ser Ala Glu Phe Thr Val Gly Arg Lys Asp Ser Ser Ile Ile
 380 385 390

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 Cys Ala Glu Val Arg Cys Leu Gln Pro Ser Glu Val Ser Ser Thr Glu
 395 400 405

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 Val Asn Met Arg Ser Arg Thr Leu Gln Glu Pro Leu Ser Asp Cys Glu
 410 415 420 425

 gag gtt ctc tgc tag tgatggtgtt ctccatatcaa cacacgcccc ccccccagtct 1416
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 35 40 45

 Arg Asp Gly Lys Phe Leu His Phe Ser Lys Glu Asn Gln Thr Leu Ser
 50 55 60

 Met Gly Ala Ala Thr Val Gln Ser Arg Gly Gln Tyr Ser Cys Ser Gly
 65 70 75 80

Gln Val Met Tyr Ile Pro Gln Thr Phe Thr Gln Thr Ser Glu Thr Ala
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 Met Val Gln Val Gln Glu Leu Phe Pro Pro Pro Val Leu Ser Ala Ile
 100 105 110
 Pro Ser Pro Glu Pro Arg Glu Gly Ser Leu Val Thr Leu Arg Cys Gln
 115 120 125

 Thr Lys Leu His Pro Leu Arg Ser Ala Leu Arg Leu Leu Phe Ser Phe
 130 135 140
 His Lys Asp Gly His Thr Leu Gln Asp Arg Gly Pro His Pro Glu Leu
 145 150 155 160
 Cys Ile Pro Gly Ala Lys Glu Gly Asp Ser Gly Leu Tyr Trp Cys Glu
 165 170 175
 Val Ala Pro Glu Gly Gly Gln Val Gln Lys Gln Ser Pro Gln Leu Glu
 180 185 190
 Val Arg Val Gln Ala Pro Val Ser Arg Pro Val Leu Thr Leu His His
 195 200 205
 Gly Pro Ala Asp Pro Ala Val Gly Asp Met Val Gln Leu Leu Cys Glu
 210 215 220
 Ala Gln Arg Gly Ser Pro Pro Ile Leu Tyr Ser Phe Tyr Leu Asp Glu
 225 230 235 240
 Lys Ile Val Gly Asn His Ser Ala Pro Cys Gly Gly Thr Thr Ser Leu
 245 250 255
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 260 265 270
 Ala Glu Asn Ser Val Ser Arg Glu Arg Ser Glu Pro Lys Lys Leu Ser
 275 280 285
 Leu Lys Gly Ser Gln Val Leu Phe Thr Pro Ala Ser Asn Trp Leu Val
 290 295 300
 Pro Trp Leu Pro Ala Ser Leu Leu Gly Leu Met Val Ile Ala Ala Ala
 305 310 315 320
 Leu Leu Val Tyr Val Arg Ser Trp Arg Lys Ala Gly Pro Leu Pro Ser
 325 330 335
 Gln Ile Pro Pro Thr Ala Pro Gly Gly Glu Gln Cys Pro Leu Tyr Ala
 340 345 350
 Asn Val His His Gln Lys Gly Lys Asp Glu Gly Val Val Tyr Ser Val
 355 360 365
 Val His Arg Thr Ser Lys Arg Ser Glu Ala Arg Ser Ala Glu Phe Thr
 370 375 380

Val Gly Arg Lys Asp Ser Ser Ile Ile Cys Ala Glu Val Arg Cys Leu
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 Met Leu Pro Ser Leu Gly Pro Met Leu
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ctc tgg acg gct gtg ctg ctc ttt gtt ccc tgt gtt ggg aaa act gtc 162
 Leu Trp Thr Ala Val Leu Leu Phe Val Pro Cys Val Gly Lys Thr Val
 10 15 20 25

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 Trp Leu Tyr Leu Gln Ala Trp Pro Asn Pro Val Phe Glu Gly Asp Ala
 30 35 40

ctg act ctg cga tgt cag gga tgg aag aat aca cca ctg tct cag gtg 258
 Leu Thr Leu Arg Cys Gln Gly Trp Lys Asn Thr Pro Leu Ser Gln Val
 45 50 55

aag ttc tac aga gat gga aaa ttc ctt cat ttc tct aag gaa aac cag 306
 Lys Phe Tyr Arg Asp Gly Lys Phe Leu His Phe Ser Lys Glu Asn Gln
 60 65 70

act ctg tcc atg gga gca gca aca gtg cag agc cgt ggc cag tac agc 354
 Thr Leu Ser Met Gly Ala Ala Thr Val Gln Ser Arg Gly Gln Tyr Ser
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tgc tct ggg cag gtg atg tat att cca cag aca ttc aca caa act tca 402
 Cys Ser Gly Gln Val Met Tyr Ile Pro Gln Thr Phe Thr Gln Thr Ser
 90 95 100 105

gag act gcc atg gtt caa gtc caa gag ctg ttt cca cct cct gtg ctg 450
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cca gaa ctc tgc atc ccg gga gcc aag gag gga gac tct ggg ctt tac Pro Glu Leu Cys Ile Pro Gly Ala Lys Glu Gly Asp Ser Gly Leu Tyr	170	175	642
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cag ctg gag gtc aga gtg cag gct cct gta tcc cgt cct gtg ctc act Gln Leu Glu Val Arg Val Gln Ala Pro Val Ser Arg Pro Val Leu Thr	205	210	738
ctg cac cac ggg cct gct gac ccc gct gtg ggg gac atg gtg cag ctc Leu His His Gly Pro Ala Asp Pro Ala Val Gly Asp Met Val Gln Leu	220	225	786
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aag ctg tct ctg aag ggt tct caa gtc ttg ttc act ccc gcc agc aac Lys Leu Ser Leu Lys Gly Ser Gln Val Leu Phe Thr Pro Ala Ser Asn	300	305	1026
tgg ctg gtt cct tgg ctt cct gcg agc ctg ctt ggc ctg atg gtt att Trp Leu Val Pro Trp Leu Pro Ala Ser Leu Leu Gly Leu Met Val Ile	315	320	1074
gct gct gca ctt ctg gtt tat gtg aga tcc tgg aga aaa gct ggg ccc Ala Ala Ala Leu Leu Val Tyr Val Arg Ser Trp Arg Lys Ala Gly Pro	330	335	1122
ctt cca tcc cag ata cca ccc aca gct cca ggt gga gag cag tgc cca Leu Pro Ser Gln Ile Pro Pro Thr Ala Pro Gly Gly Glu Gln Cys Pro	350	355	1170
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Tyr Ser Val Val His Arg Thr Ser Lys Arg Ser Glu Ala Arg Ser Ala			
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Glu Phe Thr Val Gly Arg Lys Asp Ser Ser Ile Ile Cys Ala Glu Val			
395	400	405	
aga tgc ctg cag ccc agt gag gtt tca tcc acg gag gtg aat atg aga		1362	
Arg Cys Leu Gln Pro Ser Glu Val Ser Ser Thr Glu Val Asn Met Arg			
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gcctagtgtat atcatagttg ccttaacatc ataacacaac acatttctca cgcgtttgtg		1890	
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20	25	30	
Pro Asn Pro Val Phe Glu Gly Asp Ala Leu Thr Leu Arg Cys Gln Gly			
35	40	45	

Trp Lys Asn Thr Pro Leu Ser Gln Val Lys Phe Tyr Arg Asp Gly Lys
 50 55 60

Phe Leu His Phe Ser Lys Glu Asn Gln Thr Leu Ser Met Gly Ala Ala
 65 70 75 80

Thr Val Gln Ser Arg Gly Gln Tyr Ser Cys Ser Gly Gln Val Met Tyr
 85 90 95

Ile Pro Gln Thr Phe Thr Gln Thr Ser Glu Thr Ala Met Val Gln Val
 100 105 110

Gln Glu Leu Phe Pro Pro Pro Val Leu Ser Ala Ile Pro Ser Pro Glu
 115 120 125

Pro Arg Glu Gly Ser Leu Val Thr Leu Arg Cys Gln Thr Lys Leu His
 130 135 140

Pro Leu Arg Ser Ala Leu Arg Leu Leu Phe Ser Phe His Lys Asp Gly
 145 150 155 160

His Thr Leu Gln Asp Arg Gly Pro His Pro Glu Leu Cys Ile Pro Gly
 165 170 175

Ala Lys Glu Gly Asp Ser Gly Leu Tyr Trp Cys Glu Val Ala Pro Glu
 180 185 190

Gly Gly Gln Val Gln Lys Gln Ser Pro Gln Leu Glu Val Arg Val Gln
 195 200 205

Ala Pro Val Ser Arg Pro Val Leu Thr Leu His His Gly Pro Ala Asp
 210 215 220

Pro Ala Val Gly Asp Met Val Gln Leu Leu Cys Glu Ala Gln Arg Gly
 225 230 235 240

Ser Pro Pro Ile Leu Tyr Ser Phe Tyr Leu Asp Glu Lys Ile Val Gly
 245 250 255

Asn His Ser Ala Pro Cys Gly Gly Thr Thr Ser Leu Leu Phe Pro Val
 260 265 270

Lys Ser Glu Gln Asp Ala Gly Asn Tyr Ser Cys Glu Ala Glu Asn Ser
 275 280 285

Val Ser Arg Glu Arg Ser Glu Pro Lys Lys Leu Ser Leu Lys Gly Ser
 290 295 300

Gln Val Leu Phe Thr Pro Ala Ser Asn Trp Leu Val Pro Trp Leu Pro
 305 310 315 320

Ala Ser Leu Leu Gly Leu Met Val Ile Ala Ala Ala Leu Leu Val Tyr
 325 330 335

Val Arg Ser Trp Arg Lys Ala Gly Pro Leu Pro Ser Gln Ile Pro Pro

340 345 350

Thr Ala Pro Gly Gly Glu Gln Cys Pro Leu Tyr Ala Asn Val His His
355 360 365

Gln Lys Gly Lys Asp Glu Gly Val Val Tyr Ser Val Val His Arg Thr
370 375 380

Ser Lys Arg Ser Glu Ala Arg Ser Ala Glu Phe Thr Val Gly Arg Lys
385 390 395 400

Asp Ser Ser Ile Ile Cys Ala Glu Val Arg Cys Leu Gln Pro Ser Glu
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Val Ser Ser Thr Glu Val Asn Met Arg Ser Arg Thr Leu Gln Glu Pro
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Met
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ctg ctc tgg atg gtt ctc ctg ctc tgt gat tcc atg gtt gaa gct caa 165
Leu Leu Trp Met Val Leu Leu Cys Asp Ser Met Val Glu Ala Gln
5 10 15

gag ttg ttc cca aat cct gag ctg aca gaa ttc acc aat tca gag acg 213
Glu Leu Phe Pro Asn Pro Glu Leu Thr Glu Phe Thr Asn Ser Glu Thr
20 25 30

atg gat gtc atc ctg aag tgt acc ata aag gtg gac ccc aag aat cca 261
Met Asp Val Ile Leu Lys Cys Thr Ile Lys Val Asp Pro Lys Asn Pro
35 40 45

act tta cag ctc ttt tac act ttc tac aag gac aac cat gtc att caa 309
Thr Leu Gln Leu Phe Tyr Thr Phe Tyr Lys Asp Asn His Val Ile Gln
50 55 60 65

gac agg agt ccc cac tca gta ttt tct gca gaa gcc aag gag gaa aac 357
Asp Arg Ser Pro His Ser Val Phe Ser Ala Glu Ala Lys Glu Glu Asn
70 75 80

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85 90 95	
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100 105 110	
cct gtg ctc act ctg caa cat gaa gcc act aac ctt gct gta gga gac Pro Val Leu Thr Leu Gln His Glu Ala Thr Asn Leu Ala Val Gly Asp	501
115 120 125	
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130 135 140 145	
tac tca ttc tac att aat gga gaa atc cta ggg aaa ccc ctg gct ccc Tyr Ser Phe Tyr Ile Asn Gly Glu Ile Leu Gly Lys Pro Leu Ala Pro	597
150 155 160	
tct ggc aga gct gcc tcc ctc cta gcc tca gta aag gca gag tgg agt Ser Gly Arg Ala Ala Ser Leu Leu Ala Ser Val Lys Ala Glu Trp Ser	645
165 170 175	
acc aag aac tat tcc tgt gaa gct aaa aac aac atc tcc aga gaa ata Thr Lys Asn Tyr Ser Cys Glu Ala Lys Asn Asn Ile Ser Arg Glu Ile	693
180 185 190	
agt gag ctc aag aag ttc ccc ttg gtt gtc tca ggt act gcc tgg atc Ser Glu Leu Lys Lys Phe Pro Leu Val Val Ser Gly Thr Ala Trp Ile	741
195 200 205	
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210 215 220 225	
atg gtc att gcg gct gtg gtt cta atg tat ttc ttc aaa ccc tgt aaa Met Val Ile Ala Ala Val Val Leu Met Tyr Phe Phe Lys Pro Cys Lys	837
230 235 240	
aag cat gcc aga cct gag atg ccc acc cta aaa gag cca gac agt ttt Lys His Ala Arg Pro Glu Met Pro Thr Leu Lys Glu Pro Asp Ser Phe	885
245 250 255	
cta tat gta tcg gtt gat aat cga aga tat aaa tga gattccacc Leu Tyr Val Ser Val Asp Asn Arg Arg Tyr Lys	931
260 265	
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ctgtgttagt gcaatgtctt cctccagcat atactcaact ccagctccca gcctccaccc	1051
tccagcactc agcagtggct ccaagttctc cctgcaggtc acccagttcc tagcccagca	1111
gtgaggaagc ccatatgctc tattcctggc cagggctcct gaactgtggg ttctttctg	1171
agcgggaaac caaacaatgg tgtggaaatg aacaatttcc accttgatac atacatatac	1231

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20	25	30

Thr Met Asp Val Ile Leu Lys Cys Thr Ile Lys Val Asp Pro Lys Asn		
35	40	45

Pro Thr Leu Gln Leu Phe Tyr Thr Phe Tyr Lys Asp Asn His Val Ile		
50	55	60

Gln Asp Arg Ser Pro His Ser Val Phe Ser Ala Glu Ala Lys Glu Glu			
65	70	75	80

Asn Ser Gly Leu Tyr Gln Cys Met Val Asp Thr Glu Asp Gly Leu Ile		
85	90	95

Gln Lys Lys Ser Gly Tyr Leu Asp Ile Gln Phe Trp Thr Pro Val Ser		
100	105	110

His Pro Val Leu Thr Leu Gln His Glu Ala Thr Asn Leu Ala Val Gly		
115	120	125

Asp Lys Val Glu Phe Leu Cys Glu Ala His Gln Gly Ser Leu Pro Ile		
130	135	140

Phe Tyr Ser Phe Tyr Ile Asn Gly Glu Ile Leu Gly Lys Pro Leu Ala			
145	150	155	160

Pro Ser Gly Arg Ala Ala Ser Leu Leu Ala Ser Val Lys Ala Glu Trp		
165	170	175

Ser Thr Lys Asn Tyr Ser Cys Glu Ala Lys Asn Asn Ile Ser Arg Glu		
180	185	190

Ile Ser Glu Leu Lys Lys Phe Pro Leu Val Val Ser Gly Thr Ala Trp
 195 200 205

Ile Lys Ser Asn Met Leu Thr Ile Trp Leu Pro Ala Ser Leu Leu Gly
 210 215 220

Gly Met Val Ile Ala Ala Val Val Leu Met Tyr Phe Phe Lys Pro Cys
 225 230 235 240

Lys Lys His Ala Arg Pro Glu Met Pro Thr Leu Lys Glu Pro Asp Ser
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actcactata gggctcgagc ggc 23

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